DOCUMENT RESUME

ED 391 928 CE 070 811

TITLE	Increasing Rigor and Relevance: The School Board Connection.
INSTITUTION	California School Boards Association, West Sacramento.
SPONS AGENCY	Department of Education, Washington, DC.
PUB DATE	96
NOTE	79p.; For a related document, see CE 070 812.
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	*Academic Education; *Board of Education Role; *Boards of Education; *Educational Change; *Integrated Curriculum; Leadership Responsibility; Role of Education; School Districts; Secondary Education; Superintendents; *Vocational Education

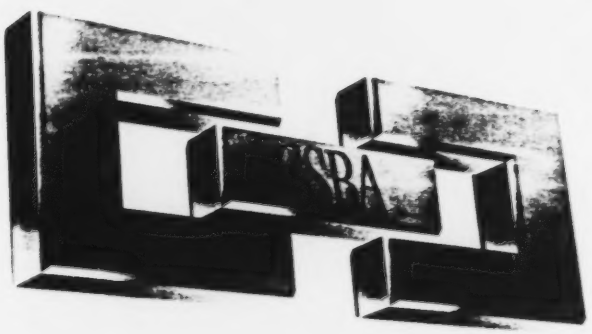
ABSTRACT

Academic-vocational integration has been identified as a national strategy ensuring that students learn a rigorous course of study in a context that supports learning through application. Four key concepts surround the definition of curriculum integration developed by the Curriculum Committee of the California School Boards Association's project: a coordinated system; enhanced academic and technical education; promotion of an understanding and application of knowledge and skills; and preparation of all students for lifelong learning and success in their life's work. Boards and superintendents must take five steps as they begin the consideration of curriculum integration: develop an awareness of the concept of curriculum integration and the potential it has for strengthening the instructional program and student learning; consider various strategies a district might use to integrate the academic and vocational/technical curriculum; understand the 10 essential elements needed in a school district to make the concept of integration successful; assess the board's commitment to the concept, the district's current activity in the area of curriculum integration, and its capacity to move toward this concept; and use the leverage points available to the board to set a course of action for the district. Specific board actions are outlined for each leverage point. School board leadership is essential to forging a major change in the delivery of instruction. (A glossary of terms is appended.) (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 391 928

Increasing Rigor and Relevance:
The School Board Connection



U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

N Valmores

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CSBA

CE 070 811

BEST COPY AVAILABLE

Increasing Rigor and Relevance:

The School Board Connection

CSBA

© 1996 California School Boards Association. All rights reserved.

FUNDING FOR THIS PROJECT:

In recognizing the critical policy role of school boards, the United States Department of Education awarded the California School Boards Association, through the California School Boards Foundation, a multi-year grant to develop a training program and lead school districts in developing a knowledge of the concept of integrating academic and vocational curricula and the strategies boards can apply to bring about integration in their school districts. This project, ***"Integrating Academic and Vocational Learning: The Essential Policymaking Role of School Boards,"*** is one of only 11 nationwide which were authorized in 1994, by the Carl D. Perkins Vocational and Applied Technology Education Act, through the U.S. Department of Education's Integration of Vocational and Academic Learning Program. It is unique in that it recognizes the board's critical leadership role in directing systemic change in a school district.

PROJECT OBJECTIVES:

This project seeks to accomplish the following:

- Provide school board members, superintendents and their districts with policy-level governance implementation strategies and effective policies necessary to integrate academic and vocational learning.

- Create a comprehensive training outline, curriculum manual and video on the role of the board in encouraging the integration of academic and vocational curricula within a school district. These materials will be made ready for distribution to every state school boards association in the United States for the sole purpose of training school boards and superintendents.

- Develop a compendium of outstanding programs which successfully integrate academic and vocational learning.

TRAINING OBJECTIVES:

The basis of this project is the development of a training curriculum for school board members. The California School Boards Association (CSBA), through its foundation, seeks to meet the following objectives:

- Provide board members, superintendents and their districts with information which supports integrating the academic curriculum with vocational/technical instruction to provide a rigorous context for learning which is tied to real-life situations and which helps prepare students for careers.

- Provide board members, superintendents and their districts with information on the elements of successful curriculum integration in which students learn better and at a higher rate of achievement.

- Provide board members, superintendents and their districts with a variety of integration models and options which they might consider as they are making policy level decisions.

- Assist board members, superintendents, and their districts in understanding the elements and strategies a board may employ as the district's policy-maker and how to create or develop more effective learning environments.

The goal of this effort is to support board members in their efforts to build one strong education system for *all* students which will have an integrated curriculum richer in content, more challenging for all students and more relevant in its application to careers and current and future life experiences.

ACKNOWLEDGEMENTS

This document was prepared with the help of a specially formed Curriculum Development Committee and an Advisory Committee. The California School Boards Association is grateful for their input and support in an effort to ensure that all students are provided with an education that is academically rigorous and that prepares them for lifelong learning and success in their life's work.

Curriculum Development Committee:

Joanne Stanton, chairperson, Curriculum Development Committee; board member, Anaheim Union High School District
Ronn Farland, dean, Vocational Education and Career Development, Chancellor's Office, California Community Colleges
Gerry Hayward, director, Policy Analysis for California Education
Gary Hoachlander, president, MPR Associates
Tom Jones, superintendent, Kern High School District
Sherry Loofbourrow, former board member, Newport-Mesa Unified School District, CSBA past president
Louise Perez, board member, Sacramento City Unified School District, CSBA past president
Susan Reese, former assistant superintendent and director, California Department of Education, High School Teaching and Learning Division
Sharon S. Robison, consultant and former superintendent
LaVoneia Steele, consultant and former superintendent
Jerry Winthrop, teacher, Nevada Joint Union High School District

Advisory Committee:

Louise Perez, chairperson, Advisory Committee; board member, Sacramento City Unified School District, CSBA past president
Len Price, Academic Senate for California Community Colleges
Gordon Ray, Association of California School Administrators
Bud Davis, Association of Regional Occupational Centers & Programs
Jo Ann Yee, Association of Urban School Districts
Joel Townsend, California Association of Vocational Administrators
Jim Becket, California Associations of Vocational Education
Jere A. Jacobs, California Business Roundtable
Ron Selge, California Community Colleges

Glen Thomas, California Department of Education
Robert J. Hotchkiss, California Employment Development Department
Carol Ruley, California Congress of Parents, Teachers, and Students
Susan Cummins Tidyman, California Partnership Academies
Steve Araujo, California School Employees Association
Katharyn W. Crabbe, California State University
Clyle Alt, California Teachers Association
Darryl Yagi, Commission on Teacher Credentialing
Jim Dupratt, Community College League of California
Gabriel Cortina, Industry Education Council of California
Hank Padden, State Center Tech-Prep Consortium
George Miller, University of California
Marcello Lopez, Western Job Training Partnership Association
Peter Parra, board member, Bakersfield City School District
Forrest Werner, former board member, Newport-Mesa Unified School District
John DeBeck, board member, San Diego Unified School District

California School Boards Association Staff:

Davis Campbell, executive director
Holly Covin, assistant executive director, Board Development
Jean Dunn-Gallagher, project director
Nilda Valmores, project coordinator
Cynthia Bingham, administrative secretary
Dee Lim, secretary
Joe Carrasco, art director

Special Thanks:

Sharon S. Robison, writer
Bill Whiteneck, consultant
Paula Gordon
Sonya Cobb

Learning takes place when learners regard what one needs to know as relevant to their lives; when they feel that their teachers...are committed to the student's success; when the institutional environment allows for differences in learning methods and styles and is in harmony with the diverse needs and interests of the learner.

– *The Forgotten Half: Pathways to Success for America's Youth and Young Families*. The William T. Grant Foundation Commission on Work, Family and Citizen, 1988.

Increasing Rigor and Relevance:
The School Board Connection

TABLE OF CONTENTS

Curriculum Integration: Its Meaning and its Importance 1

Curriculum Integration: Its meaning and its importance 3

Defining Integration 6

The Vision of the Academically and Vocationally Integrated School District 10

Beginning the Process of Academic and Vocational Integration: Steps for a School District to Take 13

Step 1: Develop an awareness of the concept of curriculum integration and the potential it has for strengthening the instructional program and student learning 15

Step 2: Consider various strategies a district might use to integrate the academic and vocational/technical curriculum. 23

Step 3: Understand the 10 essential elements needed in a school district to make the concept of integration successful 26

Step 4: Assess the board's commitment to the concept, the district's current activity in the area of curriculum integration, and its capacity to move toward this concept 38

Step 5: Utilize the leverage points avaliable to the board to set a course of action for the district 40

Measuring Our Success 59

Essential School Board Leadership 63

Glossary of Terms 65

**What the best
and wisest parent
wants for
his own child,
that must
the community
want for all
its children.**

–John Dewey

Curriculum Integration:
Its Meaning and Its Importance

INTEGRATING ACADEMIC AND VOCATIONAL CURRICULUM

- Promotes one strong educational system for all students
- Emphasizes the development of academic skills and knowledge in a rigorous course of study.
- Promotes a study of the content areas in an integrated and meaning-centered manner
- Promotes career path awareness and planning at an early age
- Promotes the application of skills, knowledge and attitudes in a real-world setting
- Promotes the concept of lifelong learning
- Promotes the exploration of a broad career path upon entry into high school
- Promotes partnerships among school, parents, business, labor, community and institutions of higher education

Curriculum Integration:
Its Meaning and Its Importance

The Concept of Integration

As leaders in government, business and industry and the community look at the needs of this nation for the coming century, it is clear that educated adults will be required to have knowledge and transferable skills far beyond those which have been historically taught in the K-12 curriculum. There are rising demands for students to have higher levels of academic preparation, to be able to apply knowledge in totally new and different situations, to be more technologically literate and to be better prepared to enter a challenging workforce after high school graduation. It is imperative that school boards and superintendents look closely at the level of learning now taking place in the schools, the instructional delivery systems which touch all students and the factors which motivate students to learn.

School boards are at the heart of the review and redefinition of the ways in which students are educated. As the policymaking body of a school district, members of the local school board can influence the direction of the community's schools by setting the vision for the district, governing through board policies, setting the framework within which the work of the district is done, and evaluating the performance of students in the organizational structure which they have established. School boards in this country hold the critical leverage points for bringing about system-wide change in their districts.

There are numerous books, reports, commission studies and legislation developed to make a case for the fact that "we cannot teach today's students for tomorrow's world in yesterday's schools." It is clear that schools must do a better job of educating *all* our students and of preparing each of them for a much more complex way of living and earning a living.

Shaping the educational requirements of the future requires school boards and superintendents to carefully define two key elements of the educational setting: (1) what students are required to learn; and (2) the environment in which students are to learn. It is critical that students be well prepared to enter the mainstream of society. Further, it is crucial that students are able to enter the workforce upon graduation or are prepared to move on to institutions of higher education. Finally, it is essential that all in our nation see themselves as continuing learners throughout their lifetimes.

Curriculum Integration (cur•ric'u•lum in'te•gra'tion):

A coordinated instructional system of enhanced academic and technical education/applied skills.[1] *This system promotes an understanding and application of knowledge and skills that prepare all students for lifelong learning and success in their life's work.*

[1]NOTE: This document uses the terms vocational education, technical education and applied skills interchangeably.

It is crucial that students are able to enter the workforce upon graduation or are prepared to move on to institutions of higher education.

Research indicates that individuals learn best when they have acquired rigorous knowledge and skills to perform a task and when they can practice the knowledge and skills in real-world situations. This has been referred to as "learning in context" or "contextualized learning." A growing body of knowledge is emphasizing that rather than separating learning into academic and vocational/technical training, the concepts, skills and knowledge required in one setting are best learned when they are applied in a context which requires the application of the skills in a realistic situation. Integration has been identified as a national strategy which ensures that students learn a rigorous course of study in a context which supports learning through application.

> *Students are better able to understand a chemical property when they see the use of what they have learned in a problem-solving situation. After students have learned the basic concepts of "emulsions" and "suspensions," they are asked to work in a team of students to develop a usable emulsion product (e.g., mayonnaise or facial cosmetics that do not separate). The culminating activity of the assignment is to develop a product proposal including cost estimates, needs assessment and a listing of potential companies which might be interested in the "emulsions" or "suspensions" product. The product must be described to the class and, where possible, to a group of adults from the local employer community. Students can see the results of their learning in a concrete context. They learn to problem-solve and they learn how to work in teams of students and to communicate their thoughts clearly.*

Many believe it is no longer viable to have the academic programs and technical programs separated and serving two different sets of students. A system must be in place in each school district which ensures that all students achieve at the highest academic level and that all students are prepared to succeed in the workplace. Through the integration of academic and vocational curricula, students have the best of several worlds. They are held to a rigorous curriculum which has high standards and which builds the academic foundations for learning. Students learn skills and become aware of how they might be transferred to a number of different careers during their life's work. Most importantly, students learn to apply both the academic and the technical curriculum in a real-world setting which helps them make practical linkages, gain understanding from the knowledge, skills, attitudes and behaviors they are acquiring, and they are more likely to retain the information.

In the United States, changes in education occur at the local level. It is imperative that each district's governance team (board and superintendent) understand the need to develop systems which deliver instructional programs that produce high-level academic performance and are aware of the policy options available to them to achieve those goals for their students. An integrated instructional setting blends the best of academic and technical learning. High academic standards are maintained while students are prepared for future careers and provided a broad band of transferable skills. It is through the understanding and actions of the governance team of each district that change will take place. Their actions bring about and support change. The linkage the governance team builds with the community will help civic and educational leaders refocus on a new and more rigorous instructional program which is seen as understandable and practical to the students.

An integrated instructional setting blends the best of academic and technical learning. High academic standards are maintained while students are prepared for future careers and provided a broad band of tranferable skills.

Curriculum integration is designed to develop fundamental academic skills and lay a foundation which will enable students to pursue a career path as well as further training in an institution of higher education.

Defining Integration

The Curriculum Committee of the California School Boards Association's project has defined curriculum integration to be:

> *A coordinated instructional system of enhanced academic and technical education/applied skills. This system promotes an understanding and application of knowledge and skills that prepares all students for lifelong learning and success in their life's work.*

There are **four** key concepts surrounding this definition.

1) A coordinated system

A coordinated instructional system denotes a district-wide effort as opposed to a site-level or classroom project. While the primary service to students may flow from grades K-12, this does not preclude collaborative efforts with other educational agencies or with the business community.

The curriculum will reflect one system for all students. It will not be divided into a program for the college-bound and non-college-bound students nor will it seek to stratify students into programs for the college-bound, vocational or general education. The curriculum will reflect the best of content knowledge, pedagogy and the frameworks and standards that have been set at the local, state and, where applicable, the national level.

The curriculum will be coordinated. There are two types of coordination:[2]

- **Horizontal Coordination:** The coordination which occurs between courses when academic and vocational teachers collaborate or engage in "parallel teaching"

  A business class might study the economics of the housing industry, while a senior studio in construction technology builds a house, and a corresponding American history class examines the evolution of architectural styles in the United States from early colonial times to the present. In this example, teachers retain the course identity, but match the learning to a common theme. Teachers might begin their efforts at this level and then move to a more integrated curriculum in the example of vertical coordination.

[1] Note: For models of integration, see p. 24.

In a middle-school setting, horizontal coordination might occur when a group of teachers join together to collaborate on the study of the modern farm. The science teacher will introduce students to the recent scientific discoveries or inventions impacting farmers. The social studies teacher will focus students on the role of agriculture in the community. Students may research the history of local farming efforts. The English teacher will assist students in research techniques and writing to inform, as well as introduce students to literature fostering an appreciation of agriculture. The computer teacher will assist students in learning to conduct research using multiple sources of technical data. All teachers will emphasize the academic aspects of the curriculum as well as the various career opportunities which impact the broader topic of agriculture.

- **Vertical Coordination:** The sequencing of courses which can result from integration

High school students enrolled in a "built environment" or construction technology major might spend a part of their 9th grade year designing and conducting a housing inventory in their community. In 10th grade, they might participate in a one-semester seminar including market analysis of affordable housing, rentals, community homelessness and other issues in housing policy. In the 11th grade, they might design a house, study the planning and permit process and practice persuasive public speaking and writing to encourage changes. Finally, in the senior year, they would construct the house, overseeing all aspects of the building process (construction, economics, project management, inspection and regulatory requirements, environmental impact considerations and marketing).

It is no longer viable to have the academic and technical programs separated and serving two different sets of students.

2) Enhanced academic and technical education

Enhanced academic and technical education reflects the desire to raise standards for all students, not to lower standards. Integration is designed to develop fundamental academic skills and lay a foundation which will enable students to pursue a career path as well as further training in an institution of higher education. Through the integration of the academic and technical curriculum, students have an opportunity to learn a rigorous program of study and apply the knowledge that they have gained in ways which have relevance to them in the world in which they live. The promise of integrating academic and vocational education is the improvement of *both* academic and technical preparation for *all* students in a district. It is critical to emphasize to the educators in the district, to institutions of higher education, and to the

community that teaching will feature rigorous academic standards in every course. All students will have exposure to the curriculum developed at the local and state levels. The expectation is that the curriculum will be richer in content, more challenging for all students, and seen as more relevant in its application to careers and current and future life experiences.

3) Promotes an understanding and application of knowledge and skills

The integration of academic and vocational curricula is an instructional K-12 strategy which makes the best use of learning theory. Students are taught the core academic skills and knowledge. Through the integration process, they are allowed to apply the skills and knowledge in a context of learning which holds meaning for them and which reinforces the skills which they have learned. Current research in learning theory indicates that students have a better opportunity to retain knowledge when they have applied or made use of that knowledge.

In a unit on transportation, math students can design improvements in their local transportation system, applying concepts such as percentages, charts, graphs, volume, and ratio. In a science class, students can review environmental problems based upon their transportation design. The social studies class can conduct an environmental impact hearing. In language arts, the students can write an environmental impact report. Through such a unit, students will be exposed to the interrelationship of social studies, science, math, and language arts. They will have applied what they learn in a manner which will have more relevance than simply learning definitions related to such concepts as percentages, carbon monoxide, budgeting and subject/verb agreement. More importantly, they will study and become aware of the current environmental issues of their community and of the governmental structures organized to address the issues. Finally, from this study, students may be inspired to pursue careers as engineers, urban planners, budget analysts, political consultants, or to begin consideration of numerous other career possibilities. Students will continue to learn the rigorous core of knowledge and skills which have always been a part of the curriculum. In the integration of instruction, students will be obtaining knowledge for a reason and will be asked to apply the knowledge to an experience which is in their current realm of understanding.

Curriculum integration may also take place in the elementary grades. Students may be asked to design a park in their school community which will serve toddlers, teenagers, families and senior

citizens. They will make use of math skills to determine the dimensions of each portion of the park. They will use English and language arts skills to conduct research and to interview the various users of the park to determine their needs. They will use writing and speaking skills to prepare their report. They will prepare their reports on a word processor. Students may have guest speakers from the local parks and recreation department lecture about the concerns which must be addressed when planting trees and installing surfaces, helping them to fully understand the complexity of issues that surround planning a park. They may have a governmental leader discuss what resources a community has to develop a park and the types of jobs which must be made available to maintain a park, and the many ways in which their academic knowledge and skills can be used. They may have a drafting firm in the community help them with the development of schematics for the park. A panel of "experts" may come to listen to oral presentations from the class and critique the concepts as presented. Each subject area and each resource will be building knowledge in the academic areas while allowing students to apply that knowledge in a setting which has meaning for them. In addition to the academic knowledge which has been learned, students are exposed to different careers and learn of the variety of people who are needed to plan and maintain one of the community facilities.

Even the most academically successful student will be challenged to a higher standard of excellence and will benefit from an instructional program which encourages career exploration and the application of knowledge to real-world situations.

4) Prepares all students for lifelong learning and success in their life's work

This is the power of an integrated curriculum. Students are able to see the connection between what they are learning in a classroom setting and the application to current life settings. The goal of this instructional strategy is to increase academic achievement, connect students through the application of their learning, teach students how to learn and to create new knowledge, and to prepare students for the next steps beyond their high school experience.

When instructed in an integrated curriculum, students not only learn rigorous academic and technical skills, but they see *why* they are learning the skills by applying them to lifelike situations. Integration draws on the strengths and interests of all students and helps them realize the connection between their academic learning and their future. Even the most academically successful student will be challenged to a higher standard of excellence and will benefit from an instructional program which encourages career exploration and the application of knowledge to real-world situations.

As new teachers are selected, attention must be paid to their ability to combine career and technical experience into the academic process.

The Vision of the Academically and Vocationally Integrated School District

It is important to note that experts agree that no academically and vocationally integrated school district yet exists. Many districts are moving in the direction of an integrated curriculum and have a vision similar to the following as a guide to direct their efforts. The vision is important as it helps the district better focus its efforts and resources. The following example is an ideal of what a district may look like when the staff has successfully integrated the academic and vocational curriculum.

An integrated school district will have several key characteristics. Most importantly, **the rigor of the school program will be increased for *all* students.** The curriculum will be even more challenging and will build upon current academic skills.

Academic and vocational/technical content will be combined. There will be one, high-quality track of education for all students. Course material will be practical, relevant and related, whenever possible, to the real world of work. The products of such teaching and learning will help students see a useful purpose for their learning. It is important to note that academic knowledge and attitudes will continue to be taught. It is the application of this core knowledge in a career setting that is a critical attribute of the successful curriculum integration of employability skills with academic preparation.

Curriculum integration has implications for the hiring practices of the district. As new teachers are selected, attention must be paid to their ability to combine career and technical experience into the academic process. Curriculum integration also has implications for the staff development experiences provided to teachers currently within the system.

Academic and vocational teachers will have collaborated and disciplinary boundaries will have been bridged. At many schools today, teachers only work with teachers within their department and often do not have the opportunity to talk or work with colleagues in other content areas. In an integrated school district, teachers will recognize the value of each content area and, more importantly, will work with a variety of content area teachers to make the curriculum hold meaning for students in an applied setting.

There is a synergy of effort and creativity when teachers with different content areas and differing instructional styles work together to make concepts more easily understood and more relevant to the students. Research has shown that one does not learn a skill in isolation, but one integrates the knowledge into a context which includes many concepts and stimuli.

If, in the previous transportation example, students are able to see the interconnectedness of ideas and knowledge and that the use of knowledge in one subject area adds to the value in other courses, the instruction then has greater meaning. The experience of applying the learning to the issue of solving transportation problems in the local community creates a memorable experience for students. The student gains important knowledge and also receives information that there are a great number of people with various specialties who are needed to resolve major issues in a community. This leads the student to the awareness that a variety of careers is important and necessary in any given context.

Instructional methods will be more student-centered, more cooperative, more project-based, set more in a context where learning is applied to lifelike situations, more active, and more demanding of students to make "meaning" from what they have learned.

It is important to note that one will not see the integration of instruction occurring 100 percent of the time in any classroom. There will continue to be the need for direct instruction in a skill or knowledge area to build the students' core knowledge of a particular subject (e.g., the math concept of percentage or the English conventions of writing).

Assessment of student performance reflects academic and technical integration. The assessments may be in part based upon a portfolio of work which reflects the different integrated projects which have been completed by the student. There may also be a culminating project which combines the skills, knowledge and thought processes from a number of different subject areas into a comprehensive work which requires the synthesis of previously acquired knowledge. Certificates of skill competencies based upon industry standards which require academic and vocational knowledge may also reflect the integrated curriculum.

American schools isolate youth from adults and from workplaces and other community settings. Weak links between school and work... cloud young people's futures, obscuring their perception of how their current behavior is likely to affect their prospects for the future.

–Stephen F. Hamilton
Apprenticeship for Adulthood: Preparing Youth for the Future
The Free Press. 1989

Beginning the Process of Academic and Vocational Curriculum Integration: **Steps for a School District to Take**

Beginning the Process of Academic and Vocational Curriculum Integration:

Steps for a School District to Take

It must be noted that each district will begin in a different place as the board and superintendent explore the topic of curriculum integration. Individual districts need to assess their current positions and determine the correct entry point into the integration of academic and vocational curriculum. There are five major steps to be taken by boards and superintendents as they begin the consideration of curriculum integration within their school districts. In reality, these steps will overlap one another. They are:

STEPS FOR A SCHOOL DISTRICT TO TAKE

1. **Develop an awareness of the concept of curriculum integration and the potential it has for strengthening the instructional program and student learning.**

2. **Consider various strategies a district might use to integrate the academic and vocational/technical curriculum.**

3. **Understand the 10 essential elements needed in a school district to make the concept of integration successful.**

4. **Assess the board's commitment to the concept, the district's current activity in the area of curriculum integration and its capacity to move toward this concept.**

5. **Utilize the leverage points available to the board to set a course of action for the district.**

Step 1: Develop an awareness of the concept of curriculum integration and the potential it has for strengthening the instructional program and student learning

The first step for a school district to take to begin the process of academic and vocational curriculum integration is to become more knowledgeable about the concept and the reasons for its importance. The following passages provide an explanation.

The Shift to the Learning-based Economy:

"The United States and other industrialized countries are moving toward a learning-based economy. . . The accelerating pace of change within organizations and the mobility of people among work places require everyone to keep learning all the time. Learning includes the transfer of existing information, knowledge, and skills from those who have them to those who need them. It also includes the discovery of previously unknown facts and principles to improve products, services and methods of production. This is a learning-based economy, where the success of individuals, companies and nations depends increasingly on how well and how fast they learn."

(Source: Bailey, 1990, Brown, Reich, and Stern, 1992, as quoted in Legislative Principles for Career Related Education and Training: What Research Supports, National Center for Research in Vocational Education, University of California, Berkeley, March 1995, p.5)

"In many countries, this development is reflected in new conceptions of work-related education and training. The key elements of the emerging model are closer integration of vocational and academic studies, greater use of practical work experience along with classroom learning, and better opportunity for participants in work-related programs to continue their preparation at more advanced levels..."

"...three elements (of the model) reinforce each other. Combining academic and vocational instruction lets students or trainees get more out of work-based learning, by explaining the conceptual significance of issues that arise in the work situation. It also keeps their options open for further education—both by satisfying academic prerequisites and by improving individuals' access to higher paying jobs, through which they can more easily finance further schooling."

"Similarly, integrating work-based learning with classroom instruction can connect theory and practice. This not only

gives students new insights and motivation in academic subjects, but also deepens the content of vocational studies. Using work to reinforce schooling, rather than allowing it to undermine schooling—as sometimes happens when students are employed in jobs that are not connected to school—also helps prevent some students from dropping out and, thus, protects their option to pursue further education."

(Source: Legislative Principles for Career Related Education and Training: What Research Supports, National Center for Research in Vocational Education, University of California, Berkeley, March 1995, p. 5-7.)

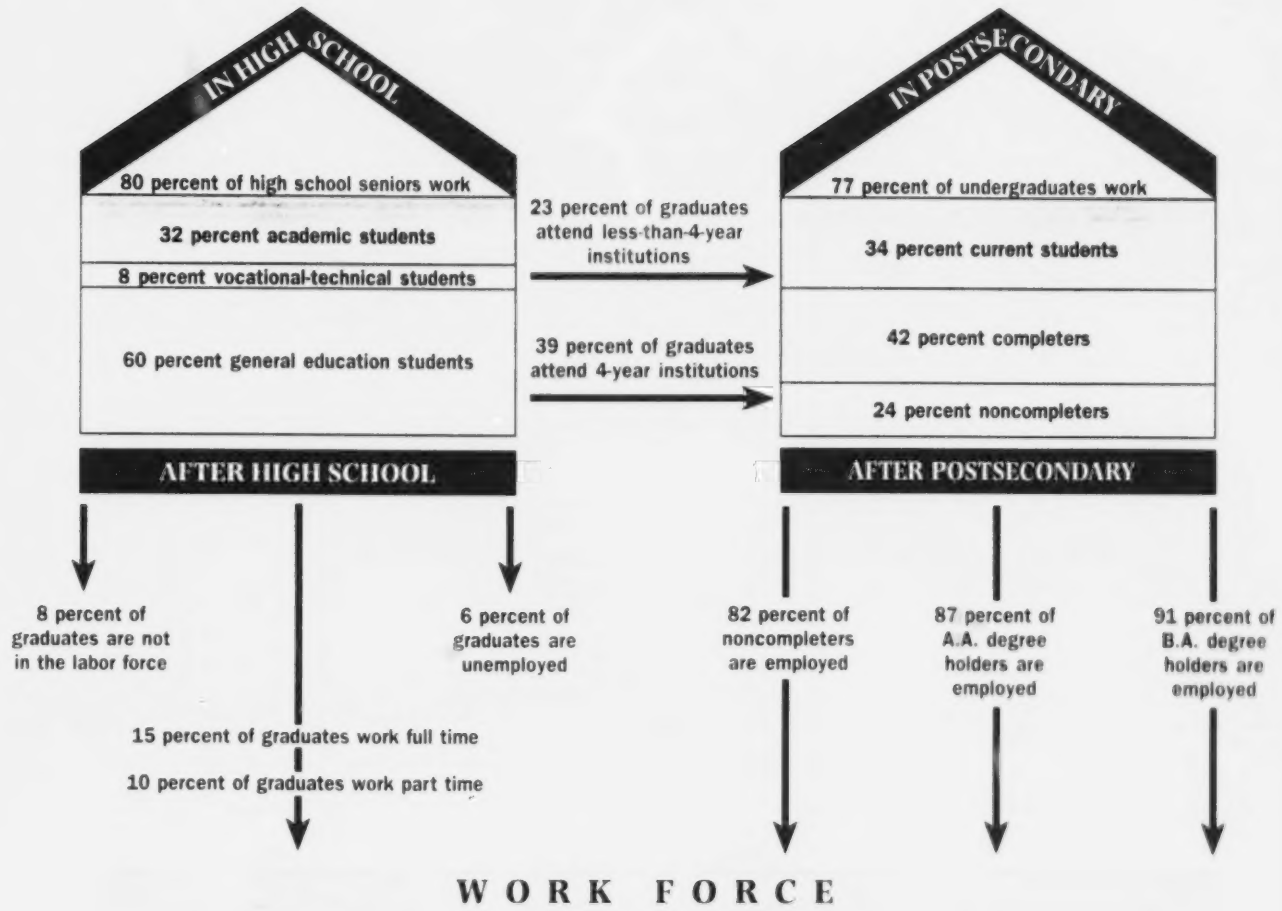
The Paths Students Select from School to Work:

A major goal of the American education system is to prepare its graduates for productive careers. It is evident that a large number of students graduating from high school lack any clear focus while in high school and are certainly not prepared to enter the workforce at any level beyond that of low-skilled and low-paid employees. "In 1992, 32 percent of high school graduates specialized in the academic, college-preparatory curriculum; 8 percent specialized in vocational-technical education and *60 percent lacked any curriculum focus.*"

Research shows that "80 percent of the high school seniors work while they are in school and 77 percent of the undergraduate students work while in postsecondary training."

(Source: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study, "Second Follow-up and High School Transcript Files," 1992 as quoted in School-To-Work Facts, The National Center for Research in Vocational Education, University of California, Berkeley, June, 1994, p. 2,12,13.)

Paths from School-to-Work


IN HIGH SCHOOL
80 percent of high school seniors work
32 percent academic students
8 percent vocational-technical students
60 percent general education students
23 percent of graduates attend less-than-4-year institutions
39 percent of graduates attend 4-year institutions
IN POSTSECONDARY
77 percent of undergraduates work
34 percent current students
42 percent completers
24 percent noncompleters
AFTER HIGH SCHOOL
AFTER POSTSECONDARY
8 percent of graduates are not in the labor force
6 percent of graduates are unemployed
15 percent of graduates work full time
10 percent of graduates work part time
82 percent of noncompleters are employed
87 percent of A.A. degree holders are employed
91 percent of B.A. degree holders are employed
WORK FORCE

(SOURCE: School-To-Work Facts, The National Center for Research in Vocational Education, University of California, Berkeley, June, 1994, P. 12, 13)

BEST COPY AVAILABLE

Integration is an ideal way to help schools retain students not interested in the benefits of an academic education per se, but who are aware of the advantages of entering the job market with skills.

Preparing Students for the Workplace:

A variety of scholars in the field of education emphasize the need to prepare students for the workplace. Following is a sampling of statements on the subject, gleaned from recent reports.

"The integration of academic and vocational education is a curricular and instructional strategy that makes learning more available, accessible and meaningful to all students. A program of sequential courses, it allows students to achieve technical competencies as it fosters learning of abstract or theoretical concepts under applied conditions. Moreover, it replaces the job-specific instruction of the traditional vocational education, which limits students' employment opportunities, with contextualized knowledge that provides students with a range of problem-solving and employability skills."

"The need to prepare young people to fill the jobs needed by the changing American economy is a problem of increasing concern. A large number of students who may not have the resources to go to a university, but who certainly have the ability to work well at decent-paying jobs, are tracked into a general high school program. They are not provided with either the academic skills needed for attendance at a community or technical college, or the vocational skills for an upwardly-bound employment path. Moreover, such tracking perpetuates the pervasive American problem of unequal educational and economic opportunity, because a large proportion of these students are not white and middle class."

"Integration also fosters teacher collaboration in curriculum planning and coordination of instruction. Finally, it involves the business community in the program."

"*Student Motivation:* Integration is an ideal way to help schools retain students not interested in the benefits of an academic education per se, but who are aware of the advantages of entering the job market with skills."

"*Workplace Linkages:* Curriculum components allow students to work, provide them with a needed income, hands-on experience in their chosen field, and contact with employers who may offer them career path jobs after graduation."

"*Equity:* Integration can help offset stratification and discrimination in schools and the work force. It offers students identified as lacking basic academic and higher order thinking

skills a meaningful education instead of relegation to a low-track program that would compromise their future opportunities. Since the majority of those low-tracked are students of color, limited-English-speaking, and poor, providing integration as an alternative to tracking not only eliminates a stigma that could further impede their ability to learn, but provides them with skill training to help them compete successfully for jobs with more advantaged applicants."

"*Qualified Workforce:* Absent the apprentice and training programs of the past, employers seeking to fill mid-skill level jobs with ever-changing duties look to U.S. schools to produce a qualified workforce. They need graduates who not only can accomplish discrete tasks, as traditionally educated vocational education majors could, but who have problem-solving skills that allow them to be flexible when carrying out aspects of their jobs. Students who have an integrated education are most likely to meet current and future employer needs."

"*Changes in School Organization:* Integration works well in a variety of school settings, although it works best when academic and vocational education teachers collaborate and use a specially developed curriculum to maximize both areas of learning. An integrated curriculum can be achieved through models that can be replicated for other courses of study, and they can offer large comprehensive high schools an attractive model for restructuring into smaller units."

"*Educationally-Rich Learning:* Integrating vocational and academic education provides students with educationally rich and problem-centered learning. Following the principles of the cognitive apprenticeship model, integration is an effective curricular and teaching strategy that allows students to develop needed skills by applying academic learning to practical situations."

(Source: Berryman, Sue, E., et al, Integrating Academic and Vocational Education: An Equitable Way to Prepare Middle Level Students for the Future, ERIC/CUE Digest Number 83, ERIC Clearinghouse on Urban Education, Teachers College, Columbia University, NY, NY, 1992.)

(Berryman S., & Bailey T., The Double Helix of Education and The Economy, Teachers College, Columbia University, NY, NY, Institute on Education and the Economy, 1992 , as quoted in Berryman, Sue E., et al.)

(Stasz, C., Integrating Academic and Vocational Education: A Synthesis Paper. Prepared for the National Center for Research in Vocational Education, University of California, Berkeley, January 1992. As quoted in Berryman, Sue E. et al.)

Curriculum integration replaces the job-specific instruction of the traditional vocational education, which limits students' employment opportunities, with contextualized knowledge that provides students with a range of problem-solving and employability skills.

Making the Case

In 1992: 32 percent of high school graduates specialized in academic, college-preparatory curriculum; 8 percent specialized in vocational-technical education; and 60 percent lacked any curriculum focus. 14 percent of high school graduates met the *Nation at Risk* academic standards.

(School To Work Facts. The National Center for Research in Vocational Education. University of California, Berkeley. July 1994.)

"Because of the low academic levels of entering students, postsecondary occupational/technical curricula contain approximately 35 percent course work that should have been learned before the students left high school."

("Every Student Wins!" by Dan Hull. Center for Occupational Research and Development. Waco, Texas. 1993.)

"In 1992, American students ranked 15th in mathematics and 14th in science out of the 18 nations that participated in the International Assessment of Educational Progress exams. Research revealed that the countries whose students are achieving the highest performance levels take an applied approach which includes applying knowledge across disciplines, and applying knowledge to real-world predictable and unpredictable situations."

("Defining Excellence for American Schools." by Dr. Willard Daggett. International Center for Leadership in Education.)

"Integration is a major feature of Southern Regional Education Board's High Schools that Work program. Between 1990 and 1993, the seven most improved sites in the program closed the academic gap between their student and college-preparatory students nationally by 65 percent in reading, 36 percent in mathematics, and 70 percent in science."

("A Report on Improving Student Learning." High Schools that Work. Southern Regional Education Board. Atlanta, Georgia. 1995.)

Improving the Current School System:

Current reform efforts at the secondary and postsecondary levels show great promise of correcting some of the most persistent problems in schools:

- *"Eliminating the 'shopping mall high school'.* In place of the tendency for students to mill around and accumulate unrelated courses, (the integrated approach) provides a focus and coherence in the curriculum."

- *"Improving the teaching of all students.* In schools that have integrated academic and vocational content, teaching has begun to change as academic teachers absorb instructional methods that have been more common in vocational classes — a greater reliance on project-driven approaches, on student-directed activities and student participation rather than teacher-dominated classrooms, on cooperative learning, on learning in specific content areas and on generic skills."

- *"Enhancing the engagement of students.* The student-centered and activity-based methods of teaching help hold students' attention. In addition, the effort to clarify the relationship between future occupations and present school work promises to enhance students' motivation, as they come to understand how high school affects their future options."

- *"Reducing the isolation of teachers.* Teachers from different disciplines have reasons to meet regularly around curriculum, providing opportunities for collaboration and for the alignment of academic and vocational courses."

- *"Reducing tracking and segregation of students.* As long as career clusters are broadly defined, they bring together students from very different backgrounds and with varied ambitions. The extracurricular activities—field trips, talks from business representatives and internships — provide opportunities outside the usual course structure for mixing students."

- *"Preserving options for all students.* Schools that are adopting a broader conception of career preparation than traditional vocational education not only prepare students for entry-level employment immediately after high school, they also prepare students for postsecondary education or for the increasingly common combination of further schooling and work."

- *"Improving guidance and counseling.* Schools that have adopted an occupational focus have all improved their career guidance and counseling...."

- *"Providing a vision for business participation.* In addition to providing extrinsic rewards like summer jobs and future employment, business can play an important role in motivating students through testimony—testimony that most teachers cannot provide—that what young people learn in school is useful in other settings."

(Source: Grubb, W. Norton, "Giving High Schools an Occupational Focus," Educational Leadership, March 1992, p. 36-43.)

Preparing All Students With a Rigorous Academic Background and Career Choices:

The integration of the academic and technical curriculum is designed to challenge *all* students to academic excellence and to become aware of, and interested in, career paths which will focus their learning and which will open opportunities for further education and work experiences. The concept of integration as an instructional strategy offers the promise of connecting all students with one purpose of schooling: preparing them for employment in a career path which holds the possibility for upward mobility and greater financial compensation.

Curriculum integration makes learning more connected to the current and future world in which the student will live, breaks down the isolation of teachers, provides for greater equity of learning opportunity and a greater connection with business and labor. The integration of the academic and vocational curriculum is consistent with learning theory. It allows students to apply what they have learned in a setting which has meaning for them. The integrated curriculum allows students to experience more fully the challenges of the curriculum and to experience the meaning of knowledge as it relates to career preparation and application to situations which add meaning to students' lives.

Step 2: Consider various strategies a district might use to integrate the academic and vocational/technical curriculum.

Schools that are adopting a broader conception of career preparation than traditional vocational education not only prepare students for entry-level employment immediately after high school, they also prepare students for postsecondary education or for the increasingly common combination of further schooling and work.

Many school districts have started on a small scale with one or more teachers or one or more sites and have increased their efforts every year. The goal of an integrated curriculum should be to serve all students in a school district and in postsecondary experiences as well. While it may be necessary for districts to begin their efforts on a small scale, the board's role should be to promote higher standards and to promote contextualized learning for all students in the system.

School boards and superintendents may choose different strategies to initiate integration. The first essential step will be an assessment of the readiness of the district to accept and implement an integrated curriculum and to consider the different models and options currently in use. These models do not preclude a district from "doing its own thing" in the area of integration or from developing a hybrid form of the models listed. Because districts are in vastly different places when it comes to the integration of instruction, there will be differing starting points. Some districts may only be able to begin with the awareness of the concept or may conduct an assessment of what is currently taking place throughout the district. Other school districts may have begun partnership academies or magnet schools and may be ready to move more rapidly into an integrated curriculum on a districtwide basis. Whatever the degree of readiness, the district should examine different models and options of the integrated curriculum. They should focus on how effective those models have been for students, the ease and cost of implementation, and how effective they will be for their students.

The National Center for Research in Vocational Education has identified a continuum of approaches to integration as summarized on the following pages. This is not a finite list as there are endless variations on each of the models. It is not necessary for districts to start at the initial stages of the continuum. Depending on the readiness of the district and the resources available, the district may begin at any stage for which it feels prepared. It *is* important to have as the board's goal the *districtwide* implementation of an integrated curriculum which blends the best of academic and technical instruction.

Effective Models of Integration

- Incorporate more academic competencies (including core skills) into vocational/technical courses.
  Vocational teachers might encourage the same writing techniques and standards used by the English department. The reinforcement of the core math concepts may be emphasized by all the vocational courses.

- Combine the planning by academic and vocational/technical teachers to enhance academic content in technical programs.
  This approach might typically involve broadening vocational/technical courses to include more mathematics or lessons in communications and teamwork or including labor market and job-search information in an introductory technology course.

- Make academic courses more applied or technically relevant.
  This approach might involve taking biology and emphasizing the impact that the bio-agriculture business has on the local economy or examining how a chemist uses scientific and mathematical formulas to measure toxic levels.

- Curriculum alignment - modify both the academic and vocational courses horizontally and vertically.
  Horizontal Alignment: Coordinating Courses
  Academic and vocational teachers "parallel teach" courses in which the themes are linked or supportive. An computer class may be studying aspects of programming while a social studies class studies the impact of the computer in the 20th century.
  Vertical Alignment: Creating Sequences of Courses
  Courses related to the health care industry may be linked over a series of years so that students are exposed to aspects of science, social policy, communications, interpersonal relationships and career opportunities in the field. During the senior year, students may spend time in a health care related field applying the skills and knowledge they learned in a job-like setting.

- Tech-Prep:
  Tech-prep courses are based on a common core of applied academic courses in math, science and communications. They provide technical preparation leading to employment. Tech-prep provides school-to-work opportunities as part of the overall curriculum. The courses are sequential and, at the high school level, are designed to interface with courses of advanced preparation at the community college level. This progression provides for stronger programs with no overlap. Tech-prep education links vocational education programs with appropriate high school academic programs to better prepare graduates for higher education and employment in technical fields.

- Academy Model—School-within-a-School:

  An academy typically operates as a school-within-a-school. Generally, an academy has a number of teachers assigned to the faculty from a variety of content areas (e.g., math, science, English, electronics). Teachers collaborate to form a curriculum around a career subject or theme. Because teachers work with each other and students within the academy for a number of years, this structure facilitates the integration of academic and technical education. In this model, the academy develops a close partnership with firms and employee organizations that work in the career area emphasized by the academy, thus providing a realistic context for instruction.

- Magnet Schools:

  This model centers its curriculum around a broad career cluster (e.g., transportation, business, health, performing arts). The school's curriculum is dominated by the focus of the career area. Students who come to the school have knowingly selected to study in the broad career area emphasized by the school. Graduates of these schools either go directly into the workforce or pursue further education in the field at an institution of higher education. Some elementary schools also exist as magnet schools.

- Career Cluster, Career Paths and Career Majors:

  These models have moved in a number of different directions. Some high schools have replaced conventional academic and vocational departments with departments organized around career clusters (agriculture, business, public service, health, fashion). With this approach, teachers are assigned to the career department or cluster. A second approach focuses on career paths from which the student may choose. After careful guidance, students select a career path (e.g., agriculture and natural resources; business and marketing; art and communication; education, health, home, and recreation; industrial technologies and engineering; social, human and governmental services) which meets their interests. As a result, they pursue their academic and technical education with the career path as a backdrop for instruction. The career clusters or career paths encompass entry, middle-level and professional-level careers.

- Apprenticeships:

  Apprenticeships emphasize academic and technical training as well as on-the-job experiences under the direction of a master craftsperson in the particular career area. Businesses and/or labor organizations join in partnership with high schools to provide a major block of career training in a real-world setting. Students are prepared for entry-level employment and made aware of the career paths in a particular field.

Step 3: Understand the 10 essential elements needed in a school district to make the concept of integration successful

10 ESSENTIAL ELEMENTS IN INTEGRATING THE ACADEMIC AND VOCATIONAL CURRICULUM

- **Commitment and Leadership from the Board of Education**
- **Commitment and Leadership from the Superintendent and Administrative Team**
- **Commitment, Leadership and Support from the Teaching Staff**
- **Awareness, Involvement and Support from the Various Stakeholders in the Community**
- **Involvement of Business and Labor**
- **Stability and Sustained Efforts**
- **The Governance of Change**
- **Support for Staff Development and Collaboration**
- **Availability of Curriculum Materials, Technology and Coordinated Classroom and Work-based Learning Opportunities**
- **Fostering Articulation Among and Between Grades K-12, Vocational Technical Centers, Postsecondary Institutions**

The following are the 10 essential elements necessary for the successful implementation of the integration of academic and vocational/technical curriculum in a school district:

Commitment and Leadership from the Board of Education

Beyond the awareness of the promise and practices of integration as an instructional strategy, the board needs to infuse the

concept of career preparation and learning application into the vision of the school district. The board and superintendent will be working in three dimensions as they build awareness of, and support for, an integrated curriculum. They must be assured that they have support *within the school board, internally (within the school district), and externally (with the parent groups, the public and private business community, labor organizations and the community at large).*

The board must adopt the concept of integration as a priority area for the school district and must direct the efforts of the superintendent to develop an implementation plan. There must be consistent support for the plan and the allocation of resources (time, space, personnel, money, materials) to achieve the vision the board has adopted.

Working with the superintendent, the board must ensure that the organization has the structure to support the strategy of curriculum integration and has the means to evaluate the improvement in student learning brought forth from the vision.

The board must show by every action it takes that curriculum integration is a top priority of the district. The board will demonstrate its commitment to integration by what it discusses at the board table, what it promotes with the parents, business and labor, and what it holds as important in the evaluation of student educational progress. The board must agree on how resources are allocated in the district, how student success is recognized, and how people and programs that promote integration are acknowledged.

An important part of the leadership and commitment of the board is the "staying power" it has to sustain the priority of curriculum integration as a viable district strategy over a period of time. All research shows that to bring a new concept to fruition and to develop it to the point where it can be considered "institutionalized," a minimum of three and, most likely, five years is needed. The board must be willing to commit to academic and technical integration as a priority and to become the advocate and supporter of the practice over an extended period of time.

A clear indicator that the board holds curriculum integration as a priority is the way in which it monitors the progress of the project. The fact that integration is a major part of the evaluation of the superintendent and that student learning as a result of an integrated curriculum is part of the annual accountability report to the board are important indicators of the board's commitment.

...the board needs to infuse the concept of career preparation and learning application into the vision of the school district.

Board members

Commitment and Leadership from the Superintendent and Administrative Team

The superintendent and the administrative team must have the clear knowledge of what an integrated curriculum would look like in the district.

Beyond an awareness of what integration has to offer students in terms of a richer learning experience and preparation for career paths, the superintendent and his/her staff must understand the components of the concept and must be able to translate the vision of the board into an everyday reality. There must be a *systemic understanding* of integration. They must understand the philosophy and vision which the board has adopted regarding the integration of academic and vocational curriculum.

Generally, major change does not come easily to a school district. The superintendent and his/her administrative team must have the clear knowledge of what an integrated curriculum would look like in the district; have an understanding of where the instructional delivery system is now; and be able to plan a series of successful strategies to move the curriculum, the instructional delivery system, and the organizational structure to the desired state. This can be done through bold strategies which will lead to the desired outcome of improved student learning of a rigorous, well-defined and integrated curriculum. It may be necessary for the superintendent, the district office, and site administrators to participate in a series of professional development experiences prior to their development of an "integration" implementation plan. The administrative team must be sensitive to the concerns of its staff and its clientele as they go through a process of change and renewal.

Again, the superintendent must understand the amount of time, support and perseverance that change of this nature takes. There must be a clearly developed implementation plan; the resources to support the plan; the ongoing commitment to the concept of an integrated curriculum; the ability to monitor and troubleshoot the efforts at the various sites; the involvement of all the key stakeholders within the district including, but not limited to, the teachers, union representatives, classified staff, parents, business community, labor and the community at large; and a system of assessment of student learning which will allow the superintendent, board and staff to determine if their efforts are making a critical difference for students.

Superintendents

Commitment, Leadership and Support from the Teaching Staff

It is the teaching staff who is trained in the various content areas that must see the promise of the concept of integration. As the educators who have the most direct impact on students, teachers must understand that the concept of academic and technical integration will enhance the curriculum, increase learning, promote instructional rigor, and meet the educational needs of more students within the system. Moreover, the support of the teaching staff and of the collective bargaining associations within the district is vital to ensure that integration will take place in the classrooms throughout the district. Staff must be involved in the development and implementation of the integrated curriculum. Staff leaders must be identified and nurtured.

...teachers must understand that the concept of academic and technical integration will enhance the curriculum, increase learning, promote instructional rigor, and meet the educational needs of more students within the system.

The management of change is critical with the staff. Entire groups of school instructors must be taken through a series of steps which will move them from the awareness level of the concept to acceptance of integration as a viable and improved delivery system for instruction, to the willingness to try the concept on a limited basis with a small group of colleagues, and to the expansion of the delivery system throughout the district.

The board and superintendent play a key role in gaining commitment from the staff. The staff will gain a full appreciation of the intent of the board to move to an educational delivery system which embraces the concept of integration by what is discussed at the board table, the priorities of the board both long and short term; the way projects are funded in the district; the staff development projects; the approved grants; the way facilities are designed and master schedules are developed; how teachers are assigned to classes and when planning periods are allocated; the supervision focus of the administrative team and the accountability systems which the board demands. The board and superintendent must have the courage to make bold statements about the types of instructional systems they wish to see in the district. They must take the responsibility to provide professional development and support systems to assist the teaching staff in moving toward the new system. They also must have the staying power to move systematically through the change process over a series of years. The board and superintendent must recognize and support the administrative, teaching, and support staff who take the risks to promote academic and technical integration and who are trailblazers in implementing the integrated academic and technical curriculum.

The board and superintendent must recognize and support the administrative, teaching, and support staff who take the risks to promote academic and technical integration and who are trailblazers in implementing the integrated academic and technical curriculum.

Every effort must be made to enlist the energy, knowledge, creativity and support of the teaching staff and of the collective bargaining associations. The commitment and involvement of the faculty will be a key link in leading the district toward an integrated curriculum.

Awareness, Involvement and Support From the Various Stakeholders in the Community

Most people tend to judge the success of a school system by the extent to which it resembles the schools they attended. When major changes in a district thrust or instructional delivery system are contemplated, the board and superintendent must develop a thorough and comprehensive plan to inform parents and the community of the change and have a clear rationale for why the change is better than the current system. Since the concept of academic and vocational integration on a system-wide basis is a relatively new concept in education, this approach is not widely known by the general public. However, the concept of applied learning is not new. For example, for years students have been taught to read music and then expected to play.

Parents, in particular, need to be cognizant that the system of integration will not diminish any of the academic rigor of the school curriculum, and, in fact, will enhance the ability to apply learning by using higher-level thinking skills. Overcoming the stigma that technical classes are for the non-college-bound students may be a *major* obstacle. Parents must see how rigorous academic learning is enhanced when students can see a "real-life" application of the information they have acquired. They must also see how the work world in which their children are entering will be more demanding in terms of knowledge, skills and the ability to create new knowledge. It will be helpful for parents to know about the learning theories which show that students have a greater retention when they learn skills as a whole and apply the skills to lifelike situations. It will also be helpful if parents see actual examples of how advanced academic courses retain their rigor while working to apply learning to a career path setting. Involving parents on curriculum development teams, advisory committees, school review teams; developing communication tools to inform parents about the changes taking place in the schools; implementing school and class open houses where they can see students' work and talk to students about the projects which they complete; using local cable television programs to showcase student work; and holding learning fairs to give parents and the community chances to see the difference in learning

which is taking place in the schools, are all means by which parents can be informed and involved in the changes. A bottom line for parents is student achievement. The board and superintendent must carefully consider the means by which they will report to the community the school-to-career achievements of students in the system and be able to report how students in their district are able to compete with students from around the state and nation.

Involvement of Business and Labor

The active support and involvement of the local employer community and employee associations is crucial to the concept of integration. For years, businesses have been concerned that the employees who enter their organizations have not been fully prepared for employment. As the employer community sees the potential of integration, they can be most influential in assisting with community acceptance of the strategy.

Beyond the awareness and support for academic and technical integration, the business and labor leaders in a community can be critical in actively supporting the school-to-career efforts of a district.

- Employers and employee associations can collaborate with teachers to define the skills, knowledge and attitudes necessary for a particular career path. Together, they can recommend the standards which are necessary for the successful completion of a series of courses in a particular career cluster.

- Employers and employee associations may define real-life problems from which students can apply their academic knowledge. These applications may be performed in the classroom, in simulations, or in on-the-job training.

- Business and labor leaders may mentor students, either individually or in groups. They may serve as speakers, conduct tours of their facility, establish a long-term relationship with a class or a group of students, establish correspondence with students, advise them about course choices, assist in researching postsecondary training opportunities and provide intern or apprenticeship opportunities.

- Local businesses and labor organizations may demonstrate advanced technology in a particular career field. They may even donate technology to a school or center.

Parents, in particular, need to be cognizant that the system of integration will not diminish any of the academic rigor of the school curriculum, and, in fact, will enhance the ability to apply learning by using higher-level thinking skills.

...keep the members of business and labor actively informed and involved in the efforts to integrate academic and vocational curricula.

- Employers may help schools by requiring transcripts, attendance records and establishing a required standard for employment.

- Employers can provide jobs or work experiences in particular career paths.

The important point is to keep the members of business and labor actively informed and involved in the efforts to integrate academic and vocational curricula. Make business and labor full partners in the encouragement and education of students in the district.

School boards need to meet with their local employers to ensure that the school board's vision and the community's business and labor have common goals. School boards must ensure that the curriculum reflects the region's economy.

Districts should consider all types of agencies and opportunities when seeking career path opportunities for their students. Public, private and governmental agencies can support students as they become involved in community-service projects in which they can apply the skills learned in an integrated curriculum. A district may also consider technological linkages with mentors at a business, college or organization in or out of the area. Communication with students may be maintained by fax, modem or phone.

Stability and Sustained Efforts

Essential to the success of integrating the curriculum and to making education relevant is the need for stability within the school district, and for a clear and sustained focus of the key leaders of the district. The board and superintendent must recognize that change of the magnitude discussed here will take place over several years. The board and superintendent must make this a clear priority and must not dilute the efforts of integration by establishing too many major initiatives during its implementation. They must sustain their efforts to support and monitor the activities at all levels in the organization, must signal that this is no temporary program, but a major change in how instruction will be delivered in the district, and must allocate resources throughout the implementation. There must be a consistency of effort, practice, resource allocation, and evaluation which will lead all staff in the direction of curriculum integration.

Board members
Superintendents
Teachers
Community
Business/Labor
Sustained Efforts
Governance
Staff Development
Materials and Technology
K-12 Articulation

Critical to the efforts of curriculum integration is the need for openness and trust among and between all the key implementors of this effort. Because most districts have not attempted achieving the vision of an integrated curriculum, there will be times when an activity will not work or when the staff is confused or uncertain about an approach. While the end goal must be clear, there must exist an atmosphere which will allow for experimentation, risk-taking, failure, and redirection without fear of reprisal or undue criticism.

Through a sense of collaboration, teamwork, professional experimentation, evaluation, monitoring and adjustment, mutual support and respect, the board, superintendent, administrative team, teaching staff, and business/labor community can create a new, more effective teaching and learning delivery system.

The board and superintendent must signal that this is no temporary program, but a major change in how instruction will be delivered in the district...

The Governance of Change

Governing and monitoring the changes necessary for an integrated curriculum to be institutionalized in a school district will be an essential component to ensuring the success of a district-led effort. There must be a clear direction and vision from the board and a stated long-range priority that this is a major initiative for the school district. The board, while not doing the actual planning for implementation, must supervise the superintendent who will develop the implementation plan. Key to the success of the plan will be regular checkpoints and reports to the board on the progress of implementation and the effects of the resources allocated by the board. They must develop a "creative tension" in the district which fully supports and demands that integration takes place, with the patience to recognize that change will be incremental.

The board and superintendent should come to agreement on what will be done on the effort in a given year and establish checkpoints and standards to determine if the integration plan is continuing on target. It should also be possible to modify the project with the concurrence of the board if information indicates that additional steps must be added to the implementation plan or that more resources are needed in a given area. An ongoing dialogue is critical between the board and superintendent and between the superintendent and the staff. The board and superintendent should have mechanisms to identify and evaluate unintentional negative consequences of the efforts to integrate the curriculum and should be willing to acknowledge and correct this type of situation.

Governance

All staff needs to develop an understanding of the concept of academic and technical integration, why it is a promising instructional strategy, how they will play a role in the implementation of the plan, and how to gain the necessary information and skills to play their role well.

It should be noted that there will be those who may oppose the district's efforts to integrate the curriculum. Legitimate concerns will be raised which the school board and superintendent need to recognize and resolve as they move forward with the implementation plan. The board and superintendent must maintain clear channels of communication with all staff and community members, must listen to and weigh opposition, must remove, wherever possible, the barriers to change and must be clear in their resolve to move in the direction of an integrated curriculum.

Support for Staff Development and Collaboration

There must be opportunities for professional development for board members, administrators, teachers, classified staff, guidance staff and counselors and others who are expected to be part of the implementation process. All staff needs to develop an understanding of the concept of academic and technical integration, why it is a promising instructional strategy, how they will play a role in the implementation of the plan, and how to gain the necessary information and skills to play their role well. They will need to hone their skills and knowledge of the content areas as well as the connections which can be made between the vocational and academic content areas. The teaching staff will need to upgrade its knowledge of the whole field of career development; career exploration, and the requirements of business and labor for current areas of work.

Teachers who have been involved in the practice of integrating instruction identify two key elements in the support of integration: (1) the development of teacher teams with common planning times; and (2) students whom the teachers teach in common. It is clear that teachers who work together on behalf of the same students are more successful in their efforts to integrate the curriculum and to impact the learning of students.

A well-conceived and well-executed career guidance program beginning as early as kindergarten and becoming more sophisticated as the student progresses through the grades is critical in assisting students to receive the maximum benefit from an integrated instructional program. Counselors and guidance staff currently working in the schools may need to undergo additional professional development and must understand the goals and practices of an integrated curriculum. With the current dearth of resources in public education, it may not always be possible to

Staff Development

provide a full complement of certificated guidance staff at a school. Districts are encouraged to consider a number of adults as potential resources for the guidance function including counselors, teachers, adult mentors, staff and business/labor partners. It must also be recognized that the strength of a well-planned and consistently delivered guidance program will maximize the academic success of students benefiting from an integrated curriculum. The counseling program will change to a career development program.

"Career development...should be defined as a process during which individuals develop career identity, work maturity, and the ability to plan (Herr and Cramer, 1988). This conception is much broader than the duties of traditional school counselors... Ideally, career development should be a systematic process that is integrated into educational programs from the elementary grades through the students' transition to employment....Supporting programs are:

- activity or experience-based, rather than based on information transfer only;
- integrated within programs of study, rather than provided by individuals (e.g., counselors) who are independent of the program;
- programmatic, extending over a period of time, rather than providing one-shot bursts of information, and;
- developmental, allowing for differences among students and encouraging the capacities (e.g., the ability to plan, a future orientation, and the capacity to make decisions) that enable students to make use of career-related information."

(Source: Legislative Principles for Career-Related Education and Training: What Research Supports, National Center for Research in Vocational Education, University of California, Berkeley, March, 1995, p.14.)

As the curriculum changes, materials, technology and other instructional resources must also change to support the efforts of integration.

Availability of Curriculum Materials, Technology and Coordinated Classroom and Work-based Learning Opportunities

As the curriculum changes, materials, technology and other instructional resources must also change to support the efforts of integration. There are few texts or other materials available in the marketplace today which can be used "from the shelf." Teachers, guidance staff, and administrators will have the task of developing and combining available resources to support the efforts of integration. In addition, there is a need for staff in the district to identify and work with employer community, professional associations and other community agencies to provide

Materials and Technology

meaningful and career-related work-based learning experiences while students are enrolled in their course work.

Students, beginning as young as the kindergarten year, may benefit from integrated lessons focusing on career awareness and skill development in an applied setting.

Fostering Articulation Among and Between Grades K-12, Vocational Technical Centers and Postsecondary Institutions

The concept of career preparation, development of higher order skills and the integration of academic and technical education must not be left to the high school years. Students, beginning as young as the kindergarten year, may benefit from integrated lessons focusing on career awareness and skill development in an applied setting. The skills developed in the early grades will have a direct and dramatic effect on the choices of career paths students will make in middle and high school and on students' ability to transfer knowledge and skills throughout their lives.

Instructional strategies which integrate the content areas should be occurring throughout the grades. Classroom methods should be centered on the acquisition of a rigorous set of skills and knowledge and the application of that knowledge in situations which equate to the "real-world." Instruction will be more project based, more contextualized, and more active in terms of student involvement in the application of knowledge.

It is clear that an articulated curriculum, aligned materials, assessment practices, and common instructional strategies at the elementary and middle schools will make teaching and learning at those levels more student centered and more active. At the very least, elementary students would understand the role of work, begin developing a basic knowledge regarding different careers and begin to understand the concept of transferable skills. For middle-school students, instruction can be integrated and career exploration and guidance can be tied to a career program. Since many middle-schools are structured similarly to high schools, many of the changes which can result from integration efforts at the high school can and should occur at the middle-school level as well. It is at the middle-school level that students begin to ask "What does learning algebra do for me?" It is important to have students understand the linkage between what they are learning and the applications they will make with the new skill or knowledge to a lifelike situation.

Students must see learning on a continuum and must not think that their formal education is complete upon high school graduation. Beginning as early as the middle grades, students must become aware of postsecondary training options including the community colleges, state and private colleges; state and private universities; and other agencies and institutions which provide training. It is essential for students to understand how they may pursue a career path through the various levels of education beyond high school.

In some instances, students may not receive their education in districts that serve students in a K-12 setting. There may be two or more districts responsible for the education of students through certain grades (e.g., K-6, K-8, 9-12, 7-12). Local boards and superintendents have the responsibility for the communication and articulation of the instructional program and for student progress throughout the grades and past governmental barriers to ensure that all students have a fluid and clearly articulated program leading to high school graduation.

In many states there are intermediate units or consortia of districts that have joined together to provide for extensive technical career training. These programs generally serve the older high school students as well as the adults in the community. These programs, such as Regional Occupational Centers/Programs in California, provide state-of-the-art training in a number of career paths and allow students to see the application of learning in a career setting.

Local institutions of higher education, particularly neighboring institutions, can become collaborative partners with the K-12 school district. The definition of student learning, the sequencing of courses, the provision of alternative learning sites at local community colleges and universities, the opportunity to link career guidance programs, and the promotion of programs in the business community are enhanced with the collaborative efforts of all agencies providing educational training to students. With the K-12 school system and institutions of higher education planning and collaborating throughout the education of an individual, a seamless educational path can be created for students which will cover a lifetime. The board and superintendent are encouraged not to overlook these most critical and valuable resources when planning for a fully integrated academic and vocational curriculum.

With the K-12 school system and institutions of higher education planning and collaborating throughout the education of an individual, a seamless educational path can be created for students which will cover a lifetime.

K-12 Articulation

Step 4: Assess the board's commitment to the concept, the district's current activity in the area of curriculum integration, and its capacity to move toward this concept

Because the restructuring of the curriculum and instructional delivery system is such a major undertaking, requiring a total commitment of energy, time, resources and attention from the board, administration and teaching staff, the board and superintendent are advised to take the time to explore their commitment to the concept and the feasibility of implementing an effort of this calibre. The following focusing questions will assist the governance team in its deliberations:

- What is the current information available regarding K-12 student achievement? What are the results of the current accreditation reports?

- Do we have information about how successful our graduates are in institutions of higher education after high school or in the workplace?

- Does the governance team have current information about the status of students who work while in school? What are the graduates from our high schools doing after graduation? Are all students in middle and high school clear about the reason for the course sequence which they are taking? Do all students have a clear and manageable goal after high school graduation?

- What is the current status of the school-to-career efforts in our district? Are there individual classrooms or groups of teachers working on this topic? What is the status of the guidance program at all levels with regard to career information, goal setting and specific career path decisions?

- Has the governance team reviewed and reconsidered the district's vision for student learning with regard to the kind of work district graduates will be doing in the next 20 to 30 years? Has the governance team discussed the unique contribution the public school system can make to a mature and contributing adult in the American society?

- Do all board members, the superintendent and key staff have sufficient information about the concept of integration of academic and vocational curricula? Are we clear about the purpose of integration? Do we believe that this is the best strategy for the district at the present time?

- What is the current status of program articulation from elementary to middle to high school? What are the current articulation efforts with the community college as well as other institutions of higher education?

- What is necessary to make the current teaching staff receptive to the concept of the integration of the academic and vocational curriculum and the related instructional strategies? How can staff be involved in the process?

- What is necessary to inform parents about an instructional system which is built around the concept of integration and preparation for careers? What is necessary to build their support for the system? How can parents be involved appropriately?

- What is necessary to inform and involve the public and private agency employers and employee associations in the district in assisting with all levels of integration, including, but not limited to: identification of skills and standards, serving as mentors, speakers, etc.; providing work experience opportunities for students; providing paid employment opportunities?

- What are the resources (time, staff, space, money, materials) needed to support the changes involved in integrating the curriculum? Is the board willing and able to commit the necessary resources to the effort? Does the district have the capacity or infrastructure in place to promote the implementation of an integrated curriculum? If not, what is needed in the district to promote this instructional strategy?

- What is the time frame necessary to fully implement an integrated curriculum in this district? Is the governance team willing to commit the necessary time and make this a high priority effort over a number of years?

It is essential for students to understand how they may pursue a career path through the various levels of education beyond high school.

Step 5: Utilize the leverage points available to the board to set a course of action for the district

THE LEVERAGE POINTS OF THE BOARD OF EDUCATION

- **Setting the Long-Range Vision for the District**
- **Establishing a Framework for Action**
  - **Employing/Directing the Superintendent**
  - **Governing Through Policy**
  - **Adopting the Curriculum**
  - **Allocating Resources**
  - **Adopting Collective Bargaining Agreements**
  - **Creating a Climate for Excellence**
- **Ensuring Accountability**
- **Becoming Community Leaders for Children, Public Education, and an Integrated Curriculum**

The board has a number of legal and positional leverage points available to it to set the course of action for a district and to monitor staff actions to determine if the course is being carried out. *A leverage point is a point of power which, if applied, will increase the means of accomplishing some purpose. The leverage points of the board are those legitimate role areas designated to the board of education which, if applied appropriately, will enhance the possibility of accomplishing the board's desired goal.* It will be important for boards to build their understanding of the concepts involved in the integration of academic and technical curricula. Once board members develop this understanding, they are encouraged to consider these leverage points as they move a district toward an integrated curriculum.

Setting the Long-Range Vision for the District

The governance of local districts is granted by the state and by the voters of local communities to the elected representatives on the school board. The locally elected school board officials thus represent the interests of *all* in the community and provide a direction for the educational program based on the community's interests and needs. Establishing the educational direction for the district is one of the first and most essential steps a board must take in carrying out its representative governance role. The vision of the district is often referred to as "the destination" of the district's activities and program. The vision should drive virtually every aspect of the district's educational and fiscal programs.

As boards look to the future, it is clear that each student needs an understanding of his/her career potential and the skills and knowledge required to pursue a career path that will be the most satisfying. The district's vision should reflect the goal of ensuring that every student has clear postsecondary plans for career development and the knowledge and skills necessary to help pursue a meaningful life in an advanced technological society.

The district's vision should reflect the goal of ensuring that every student has clear postsecondary plans for career development and the knowledge and skills necessary to help pursue a meaningful life in an advanced technological society.

Sample Vision Statement

Students will possess a core of knowledge which will become the building blocks for all additional learning. Students will demonstrate the ability to think creatively; to make decisions; to solve problems; to know how to acquire, organize and learn new information; and to reason. Students will work with a variety of technologies. They will have the interpersonal skills to work with others and to be productive members of a team.

Every student will be linked with a broad career goal. Instruction will be broad-based and include a variety of content areas. Students will also gain specialized skills in career paths which will prepare them for advanced training after high school graduation or for employment. The career paths will not be so narrow or so rigid that students cannot make decisions within the broad career path or change their paths. There will be expanded ways to learn concepts and skills as well as expanded locations for learning to take place. The community, business, labor, and institutions of advanced training will be seen as valued resources in the education of students and will be asked to contribute to the educational program in a variety of ways.

The long-range implementation plan for the district encompasses all of the top priorities for the educational and support programs. It is specific in its intent with a clear direction for how the implementation of the integration plan will take place. While the superintendent and staff generally develop the implementation plan, the board is involved in a rich and thorough discussion and exploration of curriculum integration prior to the writing of the plan. The priorities for the implementation plan come from the board and flow directly from the vision of the district.

Sample Long-Range Objective

By year_____, all students of the _____ District will be part of a comprehensive instructional and guidance program which links academic and vocational content, provides for the selection of a broad career path prior to entry into high school, and which graduates students fully prepared for college admission, other postsecondary training, or work.

Evidence of Completion:

- *There is an articulated K-12 curriculum with student outcomes at each grade level.*
- *Checkpoints exist at grades 3-5-8-10-12 and postsecondary to determine how many students are meeting the outcomes.*
- *Portfolios in grades 10 and 12 provide evidence of the students' academic achievement and career preparation.*
- *Norm-referenced and/or criterion-referenced test data will measure basic skill attainment as compared to a control group.*
- *Each student will complete a senior project in his/her potential career path with a score of 3 or better on a 5-point scale.*
- *Parent surveys will be used to determine their awareness of, and satisfaction with, the program.*
- *A log of the types of business and labor involvement will be kept and ratings by those who participate in the program will be tallied. There will be a satisfaction level of 3 or better on a scale of 5.*

What Boards Need To Do:

The board may wish to hold a "summit" or briefing sessions on curriculum integration.

1. Become knowledgeable about what curriculum integration is, its importance, and how it is being achieved in other school districts. To achieve this, the board may wish to hold a summit" or briefing sessions on integration.

2. Ensure that the following stakeholders understand and, ideally, share in the board's vision of integration:
- administration
- staff (teachers and support)
- parents
- the employer community (public and private)
- employee associations
- the community at large

For several school boards, this has meant surveying these stakeholders regarding their assessment of the skill preparation of the district's students. In addition, a report has been issued which conveyed the results of the survey along with the board's vision and district recommendations and actions.

3. Direct the superintendent to begin developing a curriculum integration plan and process which reflect the district's vision of integration.

4. Ensure that a district structure exists which involves staff in sharing the board's vision and in implementing curriculum integration in the school district. In districts, this has taken a variety of forms including:
- membership on a districtwide planning team
- membership on a districtwide implementation team
- allocating funds to train staff regarding implementation
- approving staff development days which allow for teacher collaboration

5. Articulate to parents and the greater community what structural changes are taking place and why they are occurring within the school district to achieve curriculum integration. This will mean targeting the parents at the different schools and using multiple strategies to repeatedly and effectively convey the board's vision.

6. Ensure that parents and the greater community are represented in the process so that they can truly share in the board's vision.

7. Articulate to employers and labor leaders what structural changes are occurring within the school district to achieve curriculum integration and why. The school board needs to be assured that the superintendent has involved employers and labor leaders in developing and/or supporting the district plan for integration. This may mean linking employers and labor leaders with the appropriate district staff so that the school-based and work-based learning will be better connected. The results may include the development of student internships or faculty internships. The board needs to ensure that the superintendent has seen that staff has followed through and involved business and labor organizations in its efforts.

Survey stakeholders regarding their assessment of the skill preparation of the district's students.

8. Ensure that changes which are occurring within the district reflect the board's vision of curriculum integration. This can occur through regular reports to the board, through minutes and products of committee meetings, through visitations to school classrooms, through the monitoring of student products and through monitoring the implementation of the plan the superintendent has developed.

9. Revisit and reaffirm the district's vision of curriculum integration at least annually and each time a new board member or superintendent becomes part of the governance team.

10. Ensure that the elementary and middle schools which feed into the district's high schools realize that the district's vision of curriculum integration impacts them, their curriculum, their teaching methodology, and their organizational structure. All schools must realize that the emphasis on integration is an emphasis on higher standards of instruction and of student performance. Elementary and middle schools must be part of raising the skill levels of their students and of making learning more meaningful and more realistic. Staff development must be available for all educators in the system, and the elementary and middle-school staffs must be included in the staff development plan. If there is more than one district serving the K-12 student population, there must be a strategy for the articulation of all aspects of the curriculum and for the accountability for student learning.

11. Ensure that the vision of curriculum integration involves students entering postsecondary institutions. Collaboration must be taking place with other educational entities. The board should encourage other institutions to adopt the vision of curriculum integration.

Establishing a Framework for Action

School boards are responsible for ensuring that a district structure exists which supports the wide range of district activities needed to achieve the district's vision. It is the role of the superintendent to recommend to the board the needs of the district and to be certain that those recommendations support the board's objectives. It is the board's responsibility to make decisions in the best interest of students and, thus, they are responsible for setting the policies of the district and overseeing district operations. Most importantly, they are to evaluate the results of the efforts of the superintendent and staff on behalf of students and must monitor the results of student learning to determine that students possess the skills, knowledge and attitudes which reflect the board's vision.

Neither the daily operations of the district nor the implementation of the board's policy are the board's direct responsibility. The superintendent and the staff have the responsibility of implementing the board's vision and objectives. The board is responsible for adopting the policies, procedures, resources and evaluation tools which will become the operating structure of the district.

It is the responsibility of the board to ensure that a district structure exists which supports curriculum integration. Areas which impact the structure of the district include selection of the superintendent, policies, adoption of the curriculum, resource allocation, collective bargaining agreements, and creation of a climate for excellence.

Employing/Directing the Superintendent

One of the most important tasks that the board undertakes is the selection and/or direction of the superintendent. It is critical that the board's chief executive officer has a compatible philosophy with the board, understands the board's direction in its quest to integrate the curriculum, and has the organizational and human skills necessary to bring about the change. It is the board's role to clearly define the expectations for the school district, to work with the superintendent to assure that those expectations are clearly understood, to allocate the resources necessary to support the accomplishments of those expectations, and to evaluate the superintendent on the success of the organization in meeting those expectations.

What Boards Need To Do:

1. Be certain that the superintendent understands the district's vision and that he/she is committed to carrying out the vision of curriculum integration. The board may need to provide for staff development activities for the superintendent to assist him/her in gaining sufficient knowledge of curriculum integration to support the vision.

2. Ensure that the superintendent has the resources and the organizational structure that he/she needs to implement a plan to bring about integration to the district. This may mean that the board may have to approve different organizational staffing patterns, add staff, allocate resources differently, approve schedule changes, revise or develop new policies, or attend to other items which encourage integration within the district.

3. Ensure that the structure of the district allows for change rather than prevents it. The board may need to support the superintendent as he/she works to modify the district structure to allow for any changes which will facilitate curriculum integration.

The board may need to provide for staff development activities for the superintendent to assist him/her in gaining sufficient knowledge of curriculum integration to support the board's vision.

Governing Through Policy

It is through its policies that the board most directly impacts the curriculum and instructional program. Board policies drive the philosophy of the school district, set the expectation of how all students are to be served, define the curriculum, specify the graduation requirements, denote student achievement criteria and reporting of students' progress to parents, define promotion and retention practices, define material and equipment adoption procedures and define the student assessment and accountability system. As the board seeks to influence the direction of the district in the implementation of an integrated academic and vocational curriculum, it must promote its intent through the adoption of the district's policies. The board must make known its intent that academic rigor will be retained for all students and that there is value in each student having had exposure to an integrated curriculum.

Call CSBA for sample policies which support academic and vocational integration!

What Boards Need To Do:

1. Confirm that the existing policies are consistent with the long-term vision of academic and vocational integration. This may mean that the board will initiate a review of the district policies.

2. Approve policies, as needed, to support integration. Policies may be needed to modify the organizational structure, staffing, academic requirements, scheduling, curriculum development, student evaluation or other issues related to integration.

Adopting the Curriculum

Once the board has established the direction for the district by setting a long-range vision, it is critical that it adopts a curriculum which reflects that vision. If the board has determined that curriculum integration is vital in order to enhance achievement for all students, every aspect of the adopted curriculum must reflect that decision.

The curriculum the board adopts must provide increased academic rigor for all students and enable all students to see the relevance of what they are studying. When the board approves individual classes, instructional materials and graduation requirements, it must evaluate whether the action might inadvertently perpetuate decreased rigor for some students or isolated learning for others. The board should consider whether its curriculum reflects two tracks of education (college-bound and non-college-bound) or three (college-bound, non-college-bound, and general). If so, the board should modify its decisions so it is clear it wants all students to be provided with rigorous learning and have the support and time necessary to master the material. Board decisions should reflect the desire for all students to have their learning presented in a way which makes it clear how they can apply it throughout their lives and their life's work.

What Boards Need to Do:

1. Approve courses which are rigorous and which explain the relevance of the material being presented.

2. Approve courses which provide a solid grounding in the basics but help students understand what to do with information they have in a way they see as related to real life.

3. Approve instructional materials which are rigorous and which help students see the relevance of what they are studying.

4. Approve graduation requirements which include exposure to possible ways students might apply their knowledge and skills during their life's work.

5. Have the district monitor student attendance and retention to ensure the district is doing everything possible to keep students engaged in coursework.

6. Have the district monitor student achievement to ensure all students are receiving a rigorous course of study.

7. Explore ways to provide additional means of ensuring students' success in completing the rigorous but relevant coursework.

The curriculum the board adopts must provide increased academic rigor for all students and enable all students to see the relevance of what they are studying.

Allocating Resources

The allocation of resources sends a very clear message about where the board's priorities are placed. Resources go beyond money. Resources also include time, staff, space, and materials. The board sends a message to its stakeholders not so much by what it says, but by what it does. As the board establishes the integration of academic and vocational curricula as a priority, the superintendent, with input from staff, should present a plan to the board on the strategies which will be employed to bring the plan to fruition and the resources which will be needed to make curriculum integration a reality. Resources may be directed toward curriculum development, textbook or materials acquisition, hardware and software acquisition, professional development, facility modification, or requests to align staff duties differently. In presenting the request for resources, the superintendent should designate whether these are one-time or ongoing expenses.

The allocation of resources is part of the comprehensive implementation plan which also includes the evaluation of the success of the effort and the change in student skills, knowledge or plans for the future. The board must recognize that the need for resources to support curriculum integration may recur over several years. It is critical to understand the long-range need for resources and to commit, at the outset, the resources to sustain the initiative. *The allocation of resources is not an isolated activity. It should be part of the long- and short-range planning process of the district. The allocation of resources*

should support the board's priority of the integration of academic and vocational curricula.

Ensure that the district's vision of curriculum integration is reflected in the budget development and adoption process.

What Boards Need To Do:

1. Re-examine the objectives and priorities which will guide the development of the budget and the allocation of all resources. Ensure that the district's vision of integration is reflected in the budget development and adoption process. Ensure that all resources (time, staff, space, materials, money) are used wisely and in a cost-effective manner to ensure the implementation of an integrated curriculum and to increase student achievement.

2. Encourage the superintendent to review and report all key policies, issues and concerns regarding curriculum integration raised by the board or community. Ensure that the resource allocation process supports the superintendent's efforts to answer concerns and to meet the board's expectations.

3. Approve and monitor a budget which helps achieve integration.

Adopting Collective Bargaining Agreements

Collective bargaining contracts approved by the board can have a dramatic effect on how the integration of academic and vocational curricula is implemented. Contracts have the impact of law. They may be a major enabler or inhibitor in this initiative. For example, provisions related to the school day and hours of employment can present the opportunity for collaboration with peers or it can restrict the ability to generate collaborative working relationships. As the board considers contract language with its teaching staff, provisions such as the following may assist the board in its goal to increase academic rigor and relevance: flexibility of class size, prescriptive site-based decision-making procedures, or other articles which will enhance or incorporate the flexibility to make the curricular and procedural changes necessary to implement an integrated curriculum.

What Boards Need To Do:

1. Work closely with the superintendent to examine the contracts and identify enabling language or constraints which will

assist or block the attempts to integrate. These issues may include faculty assignments, class size, teacher transfer, teacher work day, extra duty assignments, teacher planning periods and number of content preparations.

2. Develop parameters for the district's chief negotiator which will support the board's vision of curriculum integration.

Make integration a regular part of the board agenda.

Creating a Climate For Excellence

Every action or inaction of the board sends messages to the staff, parents, students and the community about what is valued and important in the district. If the board is sincerely committed to the priority of the integration of academic and vocational curricula, then it must be consistent in its efforts and messages which support that implementation. The board should consider the following actions when it moves to create a priority of curriculum integration and to support the implementation plan for curriculum integration.

What Boards Need To Do:

1. Confirm that a planning process, planning team and a timeline exist to develop the district's implementation plan. There should be some degree of flexibility within the plan to allow for unforeseen changes.

2. Explore whether an environment of openness and trust exists within the school district for administrators and staff to attempt different strategies and to take risks as they learn about integration. The board needs to create a climate where creativity and invention, as well as risk taking, within bounds, are encouraged and valued.

3. Create a climate where staff are allowed to experiment and attempt new combinations of curricula, instructional delivery patterns, staffing patterns, use of materials, assessment systems and all other components of the new instructional format without fear of being judged a failure or penalized for taking risks.

4. Let it be known that a top priority is the integration of academic and vocational curricula. Make this a regular part of the board agenda. Make this a top objective of the district and part of the superintendent's evaluation.

Each board member, the board collectively, and the superintendent should ask periodically, "What messages are my/our actions sending about our priority of curriculum integration?"

5. Periodically review the resource allocations to ensure that they are focused on the priority of curriculum integration.

6. Recognize those in the district who are contributing to the effort of integration. This may be done by a simple report of a classroom lesson that has been observed, by sending a personal note to a staff member or by visiting classrooms where teachers are known to be working diligently on the integration of academic and vocational content.

7. Use local community groups (e.g., service clubs, chambers of commerce, PTA, city government) to inform the community about the board's thrust and give examples of what is happening in the schools and with business and labor organizations.

8. Have a media strategy developed that could include having the superintendent or board president write a guest editorial or highlight innovative programs for the local newspaper.

9. Support the attendance of board, administrators, teachers, and guidance staff at conferences where curriculum integration is a key topic. Encourage the staff and the board members to be presenters at conferences where the topic is curriculum integration.

10. Make it a point to let state and national policymakers know of the interest and the priorities of curriculum integration for the district. Be specific about how they can support your efforts in the political arenas.

11. Recognize that lasting change, done well, takes time.

12. Recognize that it is important to build the capacity of the district to support the change to an integrated curriculum. Capacity-building is accomplished by establishing priorities, by supporting the long-range implementation plan, by providing resources to carry out the desired changes in the district, and by setting accountability expectations which are consistent with the board priorities.

Every action by the board and superintendent must be reviewed for the consistency of its messages and for how it moves forward the major priority of the integration of the academic and vocational curricula. Each board member, the board collectively, and the superintendent should ask periodically, "What messages are my/our actions sending about our priority of curriculum integration?"

Ensuring Accountability

Every system needs its checks and balances. The local community delegates its authority to the board of education, and the board delegates responsibility for the instructional program to the superintendent and staff. One of the major roles of the board is the establishment of accountability standards for student performance and the monitoring of those standards to ensure the educational health of the district. If the board has carefully described the conditions which it wants under an integrated curriculum and the desired student skills and knowledge to be obtained as a result, then an assessment system can be developed which will provide information on the attainment of those skills and knowledge, indicating whether or not the board's priorities have been met.

Articulate to the parents, business/labor, and the community at large the difference in student performance since the implementation of curriculum integration.

In establishing accountability standards the board can ask for data on:

- The number of students who are enrolled in areas which are working on curriculum integration or which are integrated.
- The types of curriculum integration which are currently underway in the district.
- The grade levels and courses in which curriculum integration is taking place.
- The effects of the integrated curriculum and real-life application to improved student achievement.
- Teacher, student and parent perceptions about the effects of integration on student learning.
- The number of employers and employee associations involved in the integrated programs and the types of involvement.
- The number of students who are completing courses in designated career paths.
- The number of students who are pursuing advanced courses at institutions of higher education during their high school career and after high school graduation.

- The perceptions of students after high school graduation regarding the effectiveness of the integrated curriculum and the requirement for career awareness and planning in the public schools.

- Information on the number of students who are working or continuing their education in career paths they explored in high school.

In addition to program accountability, the board must oversee the fiscal side of the district. The board is responsible for ensuring that its fiscal decisions support its curriculum integration efforts and that those decisions result in a cost-efficient and cost-effective system.

The board must oversee personnel accountability as well. The board directly oversees and evaluates the superintendent. The objectives of the superintendent must match the district's vision and the evaluation of the superintendent should be directly linked to the board's objectives for the district. The superintendent is responsible for the performance of all other staff in the district. The board, however, must have assurances that staff is trained in the concepts of curriculum integration and is working to implement the vision which the board has established as a reflection of the community's goals for the schools.

What Boards Need To Do:

1. Request a briefing, at least quarterly, on the status of integration in the district.

2. Articulate to the parents, business/labor, and the community at large the difference in student performance prior to the implementation of integration and the current student performance with the new concepts in place. The end goal of the project is to inform parents and employers how prepared the graduates are for the next level of work or academic preparation.

3. Confirm that substantial changes are taking place in the curriculum and in the instructional program in the classrooms. Ask for regular reports on student progress to confirm that the changes are making a significant difference in student performance. (To do this, the superintendent will need to establish baseline data prior to the inception of the plan to integrate academic and vocational curricula.)

4. The board must be open to a re-examination of its policies and priorities once the implementation plan is underway. New information may surface which indicates additional policies are needed or that policies must be modified to meet the changing conditions of the classroom or the unintended consequences of integrating the curriculum.

5. Monitor the changes in the K-12 classrooms. Do not concentrate exclusively on the high school. This is a systemic reform of philosophy and of instructional delivery.

6. Monitor the articulation of the curriculum from grades K through 12. Changes should not be simply taking place in individual schools. The efforts of the district must be linked to ensure that there is a seamless curriculum and a linkage of learning from kindergarten through grade 12 and beyond.

7. Monitor the efforts of the school district, business, labor, and institutions of higher education to collaborate in an effort to provide a comprehensive integrated academic and vocational education for students.

8. At least once per year, monitor the following aspects of the curricular integration:

- What percentage of students have benefited from curriculum integration?
- What percentage of staff members are, or have been, involved in the development of integrated lessons?
- What evidence of student attainment of higher standards is currently available?
- What is the current status of the implementation plan? Is the plan on course?

9. Monitor the fiscal aspects of integration by asking for information on the following:

- What resources have been allocated to promote curriculum integration?
- Are the resources being used in a cost-effective and cost-efficient manner?
- What evidence is there that the resources allocated are bringing the district closer to an integrated program?

Educate all parents, English and non-English speaking, about the district's vision curriculum integration.

10. Monitor the personnel aspects of the implementation by asking the following:

- Is the implementation of the integrated curriculum a major part of the superintendent's evaluation?
- What is the superintendent's opinion of the management team's ability to promote and achieve integration districtwide?
- Is the integration of the academic and vocational curricula a part of the annual objectives and evaluation of the teaching and administrative staff?
- What support does the board need to provide in the area of personnel to assist the superintendent in achieving the objectives?
- What evidence is there to show that staff development programs are making a difference in assisting staff with the implementation of an integrated curriculum?
- Has the board recognized the efforts of key staff members who are leading the way in the integration effort?

Becoming Community Leaders for Children, Public Education and an Integrated Curriculum

One of the strongest and most important parts of being a board member is the role each plays in becoming community leaders who advocate for children, for public education and for the concept of the integrated curriculum. For the school board, "advocacy" means *developing a clear message and then acting to influence the behavior of others in support of public schoolchildren and the issues which affect them.*

Board members have been selected by the voters of the community to represent them in decisions about the children in the community. It is critical that the board uses its position to inform the community, business and governmental leaders about the conditions and needs of students in the community, what the district is doing to respond to those needs, legislation which has the potential of helping or harming students, the purposes of an integrated curriculum, and the effect the board desires it to have on the increased achievement of students and the decisions that students make about the careers for which they are preparing.

What Boards Need To Do:

Within the District:

1. Stress with the superintendent, management team and staff the importance of their commitment, leadership and involvement in promoting an integrated curriculum.

2. Continually support the commitment and involvement of staff members as they work to achieve curriculum integration. Board actions might include individual comments of appreciation to a specific teacher, promoting curriculum integration in the employee association newsletter, participating in a school event which highlights curriculum integration, attending a conference focused on curriculum integration with district staff, and recognizing integrated curriculum at the board table.

3. Advocate for a strong professional development program which promotes the implementation of curriculum integration. Help parents and the business community understand the purpose for the staff development days.

4. Support appropriate changes in the collective bargaining agreements. Oppose changes which may be barriers to curriculum integration.

5. Advocate for a K-12 approach to academic and vocational integration.

6. Promote the development of an advocacy plan for the district which involves the board, superintendent, and other key staff in the promotion of the concepts of curriculum integration.

7. Ensure that the district's advocacy effort is coordinated through the board president and the superintendent.

Externally:

8. Educate parents and the community at large about the board's vision for curriculum integration. This should be done on a continuing basis. One district developed a video for use at parent and community meetings as well as for public service announcements.

Participate in a school event which highlights curriculum integration.

Have a video developed on curriculum integration for use at parent and community meetings as well as for public service announcements.

9. Ensure that parents are represented on curriculum development teams, advisory committees and school review teams. Have the district develop communications for parents about the changes taking place in the schools. Ensure that the district has school and class open houses where parents can see students' work and talk to students about the projects which they complete. Encourage the district to hold learning fairs and to use local cable television programs to showcase student work.

10. Promote the program with the employer community and employee associations as well as with community-based organizations which can assist the district's efforts (such as the Private Industry Council or the Chamber of Commerce).

11. Encourage the development of a district media plan as part of the implementation plan. The media plan should include regular contact with the print and visual media. Consider guest editorials, use of local cable television, letters to the editor, photo opportunities, etc.

12. Work with employers to gain their support for revised hiring requirements. Specifically, ask employers to value the training students have had in the integrated classrooms and on a work site. Ask employers to use the interviewing techniques stressed in the program and include questions on the job application which are part of the curriculum. Employers are asked to stress grade point averages, attendance records and specific types of courses taken which reflect the integrated curriculum. Moreover, students should be requested to bring in portfolios of work, certificates of mastery and/or other assessment data which will provide a testimony of their competence.

13. Urge the involvement of postsecondary education agencies. Work with local community college trustees, postsecondary boards, or the leadership of other agencies to emphasize the need for collaboration and articulation.

14. Build coalitions with business, labor, community groups, parents and other educational institutions. Speak from the position of the board about its vision for curriculum integration, the change process that is necessary and the promise of improved student achievement which will come from the new focus for the school district.

Measuring Our Success

Essential School Board Leadership

the curriculum...will be richer in content, more challenging for all students and more relevant in its application to careers and current and future life experiences.

Measuring Our Success

There are several desirable benchmarks which boards can monitor to ensure the district is achieving curriculum integration successfully and effectively. These benchmarks include the following:

1. *There is an understanding of the purpose and promise of an integrated curriculum and an acceptance of the strategy as a means of improving academic rigor and helping students see the relevance of their studies to their present and future lives.*
- The mission of the integrated curriculum is clear.
- Board policies exist which support curriculum integration and which reflect the district's vision and commitment.

2. *There is an orderly plan for the implementation of the concept and for the evaluation of the progress of the plan.*
- The plan will include major activities in a planned sequence: timelines; roles and responsibilities; resources; professional development activities; advocacy responsibilities; and partnerships with business and labor, the community, and postsecondary institutions.
- The plan will identify key checkpoints where the board will be able to monitor the progress of implementation, make a judgment about the success of the plan and what modifications, if any, are needed.

3. *The staff members of a school and district are working together.*
- Joint planning time for teachers is provided.
- The academic content of vocationally oriented courses has been strengthened.
- There is a stronger applied learning focus for academic courses.
- The new integrated curriculum applies academic knowledge and skills in a work context.
- Interdisciplinary student projects have been developed.

4. *Assessments of student performance reflect the rigorous standards of academic and vocational/technical integration and indicate that students are achieving higher academic skills at a greater rate of success.*
- Career competencies and skills have been updated.
- There is a variety of methods in place for demonstrating student performance. Many of these methods reflect the actual work of students such as portfolio assessment, student projects, etc.
- Student performance indicators demonstrate that all students are achieving higher academic standards.

School boards can forge a major change in the delivery of instruction to students that brings meaning to learning, challenges students academically, maximizes comprehension and retention, and prepares students for the careers of the future.

Essential School Board Leadership

The promise of the integration of academic and vocational curricula is that it will promote one strong education system for *all* students. The improvement of *both* academic and technical preparation for *all* students in the district is the goal of the integrated curriculum. It is critical to emphasize to the educators in the district, to institutions of higher education and to the community that teachers will emphasize rigorous academic standards in every course. All students will have exposure to the curriculum developed and implemented at the local and state level. The expectation is that the curriculum will be richer in content, more challenging for all students and more relevant in its application to careers and current life experiences. The study of subject matter will be conducted in an integrated and meaningful manner. The introduction to the world of work will be promoted at an early age. Career awareness and planning will be integrated into all curricula. Students will be exposed to the concept of lifelong learning and will begin to learn of the various options available to them. Students will be introduced to a broad career path which will expose them to all aspects of a major industry or profession. Students will see how the skills they are acquiring will be able to be applied in a variety of ways throughout their life's work. Learning will take place in a number of settings including school, the community, with business and labor organizations, through technological sources and in institutions of higher education.

There is no one model for the integration of the academic and vocational curricula. District boards of education, administrators, teaching and support staff, parents and community leaders must define the needs of the community and develop an implementation plan which best serves the students. There are models and resources available which will assist in developmental activities.

The board and superintendent play a key role in the development of the vision and priorities of the district and in sending consistent messages about the importance of academic and vocational integration to all the stakeholders in the district. It is through the board's priority, the superintendent's planning and staff's leadership that major change can take place in a district. As a team, they can forge a major change in the delivery of instruction to students that brings meaning to learning, challenges students academically, maximizes comprehension and retention, and prepares students for the careers of the future.

Too many young people are receiving an unfocused general education which relates to nothing, leads to nothing, and prepares for nothing. Unfocused learning remains one of the prime barriers to achieving excellence.

–Dale Parnell,
The Neglected Majority
The Community College Press, 1985

Glossary of Terms

Increasing Rigor and Relevance:
The School Board Connection

GLOSSARY OF TERMS

ACCOUNTABILITY. Taking account of the actions one commits on behalf of students. This will include the development of curriculum, the instructional program, the allocation of resources, the organization of the structure of the district, etc. The purpose of developing an accountability system is to provide a means of determining if the actions taken are consistent with the vision and goals of the district and if they result in increased student learning. It also helps in the determination of the cost efficiency and cost effectiveness of any effort.

ADVOCACY. The actions taken by an individual or group to influence others on behalf of the efforts of the school district. These include developing a clear message and then acting to influence the behavior of others in support of public schoolchildren and the issues affecting them.

ALL ASPECTS OF THE INDUSTRY. A broad career focus beyond that of an occupation. As students study "all aspects of the industry" in the "built environment" they may study all facets of knowledge surrounding an environment which has been built by humans, including the organizational structure of cities, economics, human resource usage, the hierarchy of jobs in the built environment, the history, sociology and geography of the built environment, safety and environmental issues, the interaction with government, etc.

APPLIED ACADEMICS. The application of a single course or content area to the world of work.

ASSESSMENT. Any systematic basis for making inferences about a student's learning progress. The purpose of assessment is to provide timely and meaningful feedback on the performance of a student or group of students to give decisionmakers information about the progress of students with regard to the instructional program.

ARTICULATION. Ensuring that the curriculum and the instructional methodology are consistent and connected through all the grades in a school district. The curriculum of each grade and the activities in which students engage should develop skills, knowledge or behaviors which will lead them successfully to the next grade level.

AUTHENTIC ASSESSMENT. An assessment that engages students in producing knowledge or completing a task which closely represents what they are likely to face as everyday workers and/or citizens. The assessment must closely connect in some way to real situations and problems. It may take the form of a performance test, a set of observations, a series of open-ended questions, an exhibition, an interview or a portfolio of work.

CAREER/PARTNERSHIP ACADEMY. This may be a school or a school-within-a-school which is dedicated to a particular theme or course of study and which is directly linked to the related business/labor organizations within the community. Students may take part of their course of study at the school site where learning is developed around the career theme. Other parts of their education may take place in the community and on the job.

COMMON CORE CURRICULUM. The essential skills, competencies and knowledge expected to be possessed by all students at the conclusion of an individual grade, a cluster of grades or upon graduation.

CONTEXTUALIZED LEARNING. The process of learning or applying the skills, competencies or knowledge learned in a lifelike setting.

COURSE SEQUENCES. A series of courses which are linked by a common theme or outcome and which become progressively more rigorous as the student moves through the sequence.

CROSS CURRICULUM. The concept that a theme or concept will be carried from one curricular content area to another and that the theme will be extended, reinforced or enhanced in each content area.

CURRICULUM. What is intentionally taught to students in the district, school or classroom; the guides, books and materials that teachers use in teaching students. The elements of curriculum are sequence (the ordering of the learning experiences), continuity (the length of such experiences), scope (the range of learning experiences to be offered), balance (the degree and number of topics, subjects and learning experiences), and the assessments (the measurement of achievement which results from the learning experience).

CURRICULUM ALIGNMENT. The sequence of learning from grade to grade or throughout the grades; the matching of all the elements of the instructional program with the goals of the curriculum (e.g., outcomes, materials, resources, professional development, assessments).

EMPLOYABILITY SKILLS. Skills that enhance a person's job marketability such as completing forms, developing a resume, preparing for a job interview and analyzing a job market; this can also be expanded to include the types of job preparation necessary to compete successfully for jobs in a particular trade or industry.

EXTERNAL ENVIRONMENT. Those individuals or forces outside the scope and jurisdiction of the board and district which have influence on the district (e.g., parents, business leaders, governmental officials and voters.)

HORIZONTAL COORDINATION. The coordination which occurs between courses when academic and vocational teachers collaborate or engage in "parallel teaching."

INTEGRATION. A coordinated instructional system of enhanced academic and technical education. This system promotes an understanding and application of knowledge and skills that prepares all students for lifelong learning and success in their life's work.

JOINT PLANNING PERIODS. Common planning periods for groups of teachers who are working on integrating the academic and vocational curriculum. When teachers have the capacity to work collaboratively on planning, curriculum development, delivery of instruction, support for students and assessment of student performance, there is opportunity for a greater degree of success in student learning.

LEVERAGE POINTS. Those actions attributed to boards of education because of their legal or positional status in a school district. Included are: setting the vision for the district; establishing the framework for action through the employment of the superintendent, policies, adopting the curriculum, allocating resources, adopting collective bargaining agreements; creating a climate for excellence; ensuring accountability; advocating for children, public education, specific educational issues, and initiatives and legislative efforts.

LIFELONG LEARNING. The concept that learning does not end when one completes a formal program or obtains a diploma, certificate or degree. The adult of today can expect to learn and relearn through one's lifetime.

PERFORMANCE ASSESSMENT. A form of assessment other than standardized tests, commercial tests, worksheets or textbook questions. This is also known as "authentic assessment." It refers to a form of performance assessment which requires the student to generate information or complete a task rather than choose from multiple-choice answers.

PORTFOLIO. A record of student learning, containing several samples of student work assembled in a purposeful manner; often includes the student's personal reflection on that work.

SENIOR PROJECT. An alternative or supplement to a formal restructuring of courses of programs to integrate academic and vocational education. The curriculum is structured around the senior project rather than around courses and course sequences. The goal of the senior project usually is to develop skills in independent work, problem solving and presenting the results and findings to others. The project integrates knowledge and skills learned in both academic and vocational courses.

SCHOOL-WITHIN-A-SCHOOL. Typically, these are smaller, specialized units of teachers and students within a larger, comprehensive high school. Teachers are grouped together and may come from a variety of content areas (e.g., English, math, social studies, science and vocational specialties). The group of teachers stay with a group of students for a series of courses and over a series of years. Generally, the school-within-a-school is based upon a career theme (e.g., health, business, technology, etc.), and the curriculum aligns courses with each other and to a career focus.

TECH-PREP. Courses at the high school level which are designed to be sequential with those at the community college level. Students begin an integrated academic and vocational program of study as early as 9th grade. Courses taken during the 11th and 12th grades are prerequisites for an established program at the community college level.

VISION. An ideal description of a school district developed by the board to serve as a "road map" for the development of the district's objectives, activities and the allocation of resources.

VERTICAL COORDINATION. The sequencing of courses over a number of grade spans and content areas to achieve an integrated program of study.

CSBAWorks

California School Boards Association
3100 Beacon Boulevard
West Sacramento, California 95691

BEST COPY AVAILABLE